

Work Order ID 148712

Wednesday, July 06, 2016 8:43:34 AM

148712

Page 1

Item ID: D6101-007 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle Billet
 Start Date: 6/23/2016 Start Qty: 20.00 ***20*** Cust Item ID:
 Required Date: 7/8/2016 Req'd Qty: 20.00 ***20*** Customer:
 Reference:

Approvals: Process Plan: **DAS 21 9-89** Date: **JUL 11 2016** Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D6101	Rev B

100	PURCHASING	0.00				20	JUL 13 2016	DAS 13 9-89
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100

Purchasing

Purchasing

Memo

Issue P/O: **33007**

- a) Description: Alluminum billet
- b) 7.750" x 8.250" x 2.50" thick
- c) Tolerance on all dimensions are +0.030"/-0.000"
- d) Grain direction along 7.750" length
- e) Material: 7075-T7351 (QQ-A-250/12)
- f) Material certification required

110

Receive & Inspect for Damage & Mat'l Certs

0.00

110

Packaging

Packaging

Memo

Ensure material certification is attached

0.07

20x Sp/6-8-4.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
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Page 2

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 Start Date: 6/23/2016 Start Qty: 20.00 ***20*** Cust Item ID:
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 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00				20	0		DAS 14 9-89
120									
QC	Memo	0.00							
Quality Control	Ensure Material certification comply to Dwg D6101								16/08/06
130	Identify as per dwg & Stock Location: MAT041	0.00				20	0		DAS 45 9-89
130									
Packaging	Memo	0.03							
Packaging	LOCATION: MAT041								16/08/06
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.33							
Quality Control									16/8/11 J

gub

AUG 08 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : _____									

Wednesday, July 06, 2016 8:43:33 AM

Page 1

148712

D6101-007

Required Date: 7/8/2016

Required Qty: 20.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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No

110

Each

0.0000

20

D6101-007P

7075-T7351 8.25X7.75X2.5

**

20
20X SP/6-8-4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

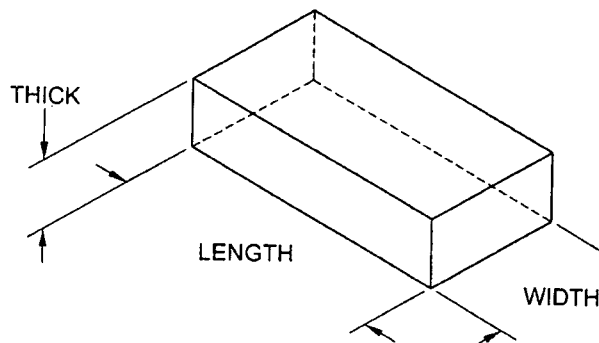
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
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Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____						
Misidentified ☐	Past Due ☐							

SPECIFICATION CONTROL DRAWING



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 138712 M5
16-07-11

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

RELEASED
09/07/15/W

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D6101	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	SADDLE BILLET, 7075	NTS
DATE	09.04.23	COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO333007

Purchase Order Date 7/13/2016

PO Print Date 7/13/2016

Page Number 1 of 2

Order From :

METAUX CASTLE
P.O. BOX 4090 STN A
TORONTO, ONTARIO M5W OE9
CANADA

VU-MET002

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

E-MAILED

Contact Name
Vendor Phone

Ship To Contact

Ship To Phone

Ship Via: Yours ppd

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

USD

Destination-Collect

JUL 13 2016

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	D6101-007P	7075-T7351 8.25X7.75X2.5	7/28/2016	Yes	20.00 Each	\$56.11	\$1,122.20

Promise Date

7/28/2016

Line Total: \$1,122.20

2 D6103-003P Round Alum Billet

7/28/2016

Yes

7/28/2016

16.00

Each

\$36.30

\$580.80

AS PER DWG D6103 REV. B

B148649

MATERIAL: 7075-T7351 AS PER QQ-A-225/9

SIZE: 3.500" X 12.500" LONG

Line Total:

\$580.80

Note:

7/13/2016

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 2

Shipment No:3040181

Ship From: A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 02-AUG-16	F.O.B. ORIGIN	Freight Terms Prepaid		Carrier MANITOULIN		BOL No 3040181-2	

Shipment Details			Final Destination Branch - TOR				
Order No 4427953	Line No 1	Item No 752241 MO	Description 2.5000.PL.7075.T7351.ALUMINUM.US1.48.5000.144.5000 CUT 2SIDED TO 8.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.75")) X 7.75 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.75")) - ALUMINUM PLATE SAW SPECIFICATIONS: QQ-A-250/12 Email P/s and certs to: clavoie@dartaero.com				
Purchase Order No 33007	Part Number YOUR ITEM NUMBER: D6101-007		Ordered Qty 20.00 PCS	Invoice Qty 20.00 PCS			
Details		ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS SP/6-8-14					
Delivery No. 120494702	Mill KAISER ALUMINUM	Heat Number 	Mech Id 20	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS) 330.6337

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law prohibited.

Date Printed: 02-AUG-2016 05:13:11 PM



Castle Metals®

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 2 of 2

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Date:

Name:

Chris Galt

AUG 02 2016



SP16-8-4

SHIP TO:
A M CASTLE & CO
3050 SOUTH HYDRAULIC
WICHITA, KS 67216

**KAISER
ALUMINUM**

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4403443

SOLD TO:
AM CASTLE & CO- SOLD TO
1420 KENSINGTON RD
SUITE 220
OAK BROOK, IL 60523

CUSTOMER PO NUMBER: 344049		WORK PACKAGE:		CUSTOMER PART NUMBER: 752241		SHIP RUN/LOAD: 103437/9		GOVT CONTRACT NUMBER:					
KAISER ORDER NO: 1199092		LINE ITEM: 1		SHIP DATE: 6-JAN-2016		ALLOY: 7075		CLAD: BARE		TEMPER: 7351		PRODUCT DESCRIPTION: KaiserSelect Plate	
WEIGHT SHIPPED: 5412 LB		QUANTITY: 3 PCS EST.		TRUCK B/L #: 2057936		GAUGE: 2.5000 IN (63.5000 MM)		DIAMETER/WIDTH: 48.500 IN (1231.9 MM)		LENGTH: 144.500 IN (3670.3 MM)			

MHU 1960912: LOT 159738B4: 1 pieces;
MHU 1960921: LOT (782747A0): 2 pieces;

Certified Specifications

AMS 4078/RevJ
ASTM B 209/Rev14
BSS 7055/RevB
DPS 4.713/RevAK
MMS 159/RevT

(AMS-00-A-250/12/RevA)
ASTM B 594/Rev13
CMMP 025/RevU
GAMPS 9101/RevB/AmdSCN1
PS 21211/RevM

AMS-STD-2154/RevA
BAC 5439/RevJ
CSTI 006/RevE
GSS16100/RevG/Amd1

Test Code: 4297

Test Results

Lot: 159738B4 Cast 108 Drop 25 Ingot 5 DAs Melted in USA

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	68.8 : 69.0 (474 : 476)	57.6 : 57.7 (397 : 398)	11.4 : 11.9

(ASTM E1004)

(EN 2004-1)

Conductivity %IACS :	40.1 Min.	40.4 Max
(MS/M) :	23.3 Min	23.4 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.08	0.19	1.5	0.05	2.5	0.20	5.7	0.03	0.01	0.01	TOT 0.05



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Lot: 782747A0 Cast 108 Drop 25 Ingot 5 Parent Lot: 159738B4 Melted in USA

(ASTM B8/B557)
(EN 2002-1)

Tensile: Temper T7351 Dir / # Tests Ultimate KSI (MPA) Yield KSI (MPA) Elongation %
LT / 2 (Min;Max) 69.0 : 69.8 58.0 : 58.8 11.2 : 11.5
(476 : 480) (400 : 405)

(ASTM E1004)
(EN 2004-1)
Conductivity %IACS : 39.7 Min 40.4 Max
(MS/M) : 23.0 Min 23.4 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.08	0.19	1.5	0.05	2.5	0.20	5.7	0.03	0.01	0.01	TOT 0.05

ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

DAS
14
9-89

ORDER COMMENTS

AMC CA-15413B R 6
AMS 4078, AMS QQ-A-250/12, AMS STD-2154, A
STM B209, ASTM B594, BS
S 7055, CMMP 026, CSTI 006, DPS 4.713, GAMP
S 9101, MMS 159, PS 212

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TEST NOTES

Metal represented by this test report was 100% Type I
(Immersion) ultrasonically tested from one side with 3mm
dead zones top and bottom and meets the Class A and Class B
requirements of all specifications referenced on this test
report. No surface marking of sonic indications is
performed.





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CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC (Kaiser), is ISO 9001:2008/AS9100C certified and hereby certifies that all material shipped under this order:

* has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements.

* was melted in the United States of America or a qualifying country per DFARS 225.572-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.

* has been thermally processed in compliance with AMS 2772, where applicable;

* is mercury free, within the limits of detection of ASTM E1251 (< = 1ppm).

* is in compliance with RoHS 2, European Union Directive 2011/65/EU.

* is in compliance with and regularly monitors any updates to the European Chemical Agency, ECHA, REACH regulations, (EC) n° 1907/2006.

* is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.

Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

JAMES HEMMENWAY, LABORATORIES SUPERVISOR



MATERIAL RECEIPT INSPECTION FORM

PO / BATCH NO 33007/128712

MATERIAL D6101-007
DATE 16/08/06

MATERIAL CERT REQD yes
QUANTITY RECEIVED 20
QUANTITY INSPECTED 20
QUANTITY REJECTED _____

THICKNESS ORDERED 7.750X8.250X2.500
THICKNESS RECEIVED 7.750X8.250X2.500
SHEET SIZE ORDERED _____
SHEET SIZE RECEIVED _____

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	☒	☒	
CORRECT FINISH	☒	☒	
CORROSION	☒	☒	
CORRECT GRAIN DIRECTION	☒	☒	
CORRECT MATERIAL	☒	☒	7075-T7351
CORRECT THICKNESS	☒	☒	2.500
PHOTO REQUIRED	☒	☒	
CORRECT MATERIAL	☒	☒	DD-A-250/12
CORRECT REF # TO LINK CERT	☒	☒	HEAT # 782747A0
CORRECT MATERIAL IDENTIFICATION	☒	☒	D6101-007
CORRECT M# ON THE MATERIAL	☒	☒	PI148712
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	☒	☒	
DOES THIS REQUIRE AN EXTRUSION REPORT	☒	☒	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK RECORD RESULTS BELOW				
	HRC	HRB	DUR A	DUR D
TYPE OF MATERIAL				
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY <u>14</u>	SIGNED OFF BY _____		
DATE <u>16/08/06</u>	DATE _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

MATERIAL RECEIPT INSPECTION FORM

INSTRUCTIONS FOR INSPECTING BAR, TUBING, ROUND, & SHEET STOCK

1. VERIFY STOCK TO DART PURCHASE ORDER
2. MEASURE ALL DIMENSIONS FOR EACH PURCHASED STOCK
 - a. WIDTH, THICKNESS, DIAMETER, WALL THICKNESS & LENGTH
3. VERIFY CONDITION OF MATERIAL i.e. DAMAGED, CORRODED etc
4. VERIFY THAT SUPPLIER HAS A NUMBER (HEAT #) ON ITS RECEIVING REPORT TO LINK TO MATERIAL CERTS
5. VERIFY MATERIAL CERTS ARE CORRECT TO THE DART PO INSTRUCTIONS
6. REMOVE / CUT A PIECE OF MATERIAL FOR SAMPLE HARDNESS TESTING

INSTRUCTIONS FOR INSPECTING SKIDTUBE & STEP EXTRUSION

1. VERIFY TO DART SUPPLIED DRAWING
 2. SAMPLE INSPECT MATERIAL IN BUNDLE TO ENSURE MATERIAL CAN BE RECEIVED INTO DART
 3. USING PORTABLE HARDNESS TESTER VERIFY HARDNESS OF THE MATERIAL TO THE DRAWING
 4. VERIFY THAT MATERIAL CERTS MATCH TO WHATS CALLED UP ON THE DART DRAWING
- AFTER MATERIAL PASSES INSPECTION**
5. HAVE DART EMPLOYEES START STOCKING MATERIAL BUT REQUEST MIN 20pcs FOR FULL INSPECTION
 6. INSPECT ALL DIMS AS PER DRAWING REQUIREMENTS

INSTRUCTIONS FOR INSPECTING CROSS TUBE MATERIAL

1. VERIFY MATERIAL CERTS MATCH THE REQUIREMENTS ON THE DART DRAWINGS
2. INSPECT MIN HALF THE BATCH OF EXTRUSION RECEIVED INTO DART
3. INSPECT MATERIAL AS PER THE EXTRUSION REPORT
 - a. WALL THICKNESS USING ULTRA-SONIC IN 4 LOCATIONS
 - b. OUTSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - c. INSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - d. STRAIGHTNESS @ CENTER OVER 12" SPAN
 - e. WALL THICKNESS USING TUBE MICROMETER HIGHEST/LOWEST BOTH ENDS
4. IDENTIFY EACH TUBE IN SEQUENCE OF INSPECTING (TUBE 1, TUBE 2) AND W/O# AND PO#
5. RECORD ALL FINDINGS ON EXTRUSION REPORT

IF ANY QUESTIONS PLEASE SEE QC COORDINATOR BEFORE GOING FURTHER